



## ***Pre-flight Planning Actions to Avoid Airframe Icing***

*The following is an excerpt from A Pilot's Guide to Safe Flying by Sander Vandeth, reprinted with permission.*

Preparation is the key strategy for avoiding icing and managing any inadvertent icing encounter. It should include an assessment of your knowledge, experience and proficiency with respect to flying in conditions conducive to airframe icing.

- Obtain a comprehensive weather forecast and briefing. Check:
  - for any forecast icing on takeoff, en-route and landing;
  - the extent of frontal activity, convective activity and rising terrain when below freezing temperatures are forecast aloft (this will aid in ascertaining the likelihood of localized icing);
  - the cloud tops and thickness;
  - the locations of any areas of warm air;
  - the likelihood of freezing rain.
- Avoid the “freezing zone” (0°C to -20°C) when there is visible moisture or the likelihood of freezing rain.
- Pick a route where the minimum en-route altitude is below the forecast freezing level or you are able to fly in clear conditions.

- Avoid flying just above the tops of cloud, as they can rise rapidly and water concentration is greatest near the top of cloud.
- Have an escape plan should icing be encountered en-route.
- If you have anti-icing equipment, make sure it is functioning properly before takeoff, and that you plan for minimum exposure during climb and descent.
- Provide extra fuel margin.
- Review the pilot operating handbook (POH) to refresh your memory on the airplane icing limitation and procedures.

*Sander Vandeth is a mechanical engineer with many years of flying experience in Canada and Australia. He is a passionate advocate of aviation safety and his manual A Pilot's Guide to Safe Flying is the product of several years of exhaustive research and consultation. For more information on the manual, or to contact the author, visit [www.mcove.com](http://www.mcove.com).*